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June 25, 2004

Rob Jones
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Salmon Recovery Division, NMFS
525 NE Oregon Street, Suite 510
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Dear Mr. Jones: Rob

The Oregon Department of Fish and Wildlife (ODFW) is submitting the attached report describing the coho salmon fishery in Siltcoos and Tahkenitch lakes in 2003 and our proposal for a fishery in 2004. Consistent with the Fisheries Management and Evaluation Plan (FMEP) for the fishery, ODFW requests that the National Oceanic and Atmospheric Administration (NOAA) provide written concurrence with the proposed fishery for the upcoming season.

ODFW thanks NOAA for cooperatively working to initiate this fishery in 2003. The fishery, although abbreviated, went very well. The angling public and resorts around the lakes welcomed the chance to again have a fishery for coho salmon. Coho salmon returns to the two lakes were very strong with spawner abundance near record levels. Overall, this fishery provided an example of the benefits that can be derived from successful native salmon recovery efforts.

For the upcoming year we are again forecasting high abundance which, consistent with the approved FMEP, will allow harvest of up to 600 and 400 adult coho salmon from Siltcoos and Tahkenitch Lakes respectively. Spawner abundance after this harvest should be more than adequate to meet criteria in the FMEP and provide maximum seeding of freshwater habitats. Regulations proposed for the fishery are the same as last year with a creel survey in place to monitor harvest relative to quotas for each lake.

Please contact Bob Buckman at our Newport Office to discuss technical aspects of the fishery including modification to next year's proposal if necessary. We look forward to your evaluation and response.

Sincerely,

for

Steve Williams
Assistant Chief of Fisheries
Oregon Department of Fish and Wildlife

cc: Lance Kruzic
Bob Buckman

attachment

Review of the 2003 Siltcoos and Tahkenitch Lakes Coho Salmon Fishery

Prepared for:

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Prepared by:

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June 10, 2004

Introduction

A fishery for wild coho salmon (*Oncorhynchus kisutch*) was initiated in Siltcoos and Tahkenitch lakes in December, 2003. This fishery has significance because it is the first targeted harvest of Oregon coast naturally produced coho salmon since fisheries closed coast wide in 1993 and it is harvest of a species listed as threatened under the Federal Endangered Species Act.

Harvest was proposed for these lake basins because they support stable and healthy naturally produced coho salmon populations with a harvestable surplus (Zhou, 2000). Coho production from these lakes has been more stable than in Oregon coastal rivers where populations declined severely during the 1990's. With the coast wide improvement of coho salmon production since 2001, a limited harvest in Siltcoos and Tahkenitch lakes was pursued under the premise that it would not jeopardize coho sustainability or decrease production in these lakes. This fishery would also not have an appreciable impact to recovery of coho salmon in the remainder of the Oregon Coastal Coho ESU.

The proposal for the fishery was made by the Oregon Department of Fish and Wildlife (ODFW) through submission of a Fishery Management and Evaluation Plan (FMEP) to the National Oceanic and Atmospheric Administration (NOAA), (ODFW, 2003). This was followed by a public comment period and development of an Environmental Assessment (EA) by NOAA. Following an additional public comment period for the EA, NOAA gave approval to ODFW to open the fishery on December 9, 2003. The fishery was actually opened by ODFW on December 11. The FMEP requested approval prior to October 1 so the fishery could be opened on that date; however, policy level discussion at the state and federal level delayed the opening of the fishery.

A requirement of the approved FMEP is to annually submit a report reviewing the fishery and describing proposed fisheries for the upcoming year. This report is intended to fulfill the requirements of the annual review as described in the FMEP.

Results for 2003

Fisheries

A statistical creel occurred during the entire open period of the fishery, December 11 through December 31, 2003. The creel was developed by an ODFW statistician and conducted by a combination of an ODFW staff biologist and temporary employee. The intent of the creel survey was to estimate harvest of coho salmon in the two lakes and associated angler effort. Initially the creel was to be conducted from a boat, but with the limited fishery (three weeks), blustery weather conditions in late December and associated safety concerns it was decided to conduct the creel from the bank and at boat ramps.

Total harvest was estimated at 10 adult and 2 jack coho salmon in 2003 with an additional 24 adult and 3 jack coho salmon caught and released. All coho were caught in Siltcoos Lake. Of the 39 coho caught by anglers all were naturally produced, except for a single adipose clipped adult that was reportedly caught and released in Siltcoos Lake.

Angler effort was estimated at 605 and 243 angler hours for Siltcoos and Tahkenitch lakes respectively. An estimated 22 angler hours were expended per coho caught and an estimated 71 hours were spent fishing for each coho retained.

Spawner Abundance

Preliminary Siltcoos and Tahkenitch lakes coho salmon spawner abundance estimates for 2003 are 6,628 and 3,203 for the two lakes respectively (Figure 1 and 2, appendix table 1). Both lakes are above the spawner abundance objective in the FMEP which was set at the upper bounds of the 90% confidence interval for the Maximum Sustained Production (MSP) spawner abundance (3,300 for Siltcoos and 2,200 for Tahkenitch) as described in Zhou (2000). The estimated spawner abundance was the highest observed in Siltcoos Lake since data collection started in 1960 and the third highest in Tahkenitch Lake over the same time period. In both lakes, the last three year period has had the highest spawner abundance over the period of record.

Figure 1.

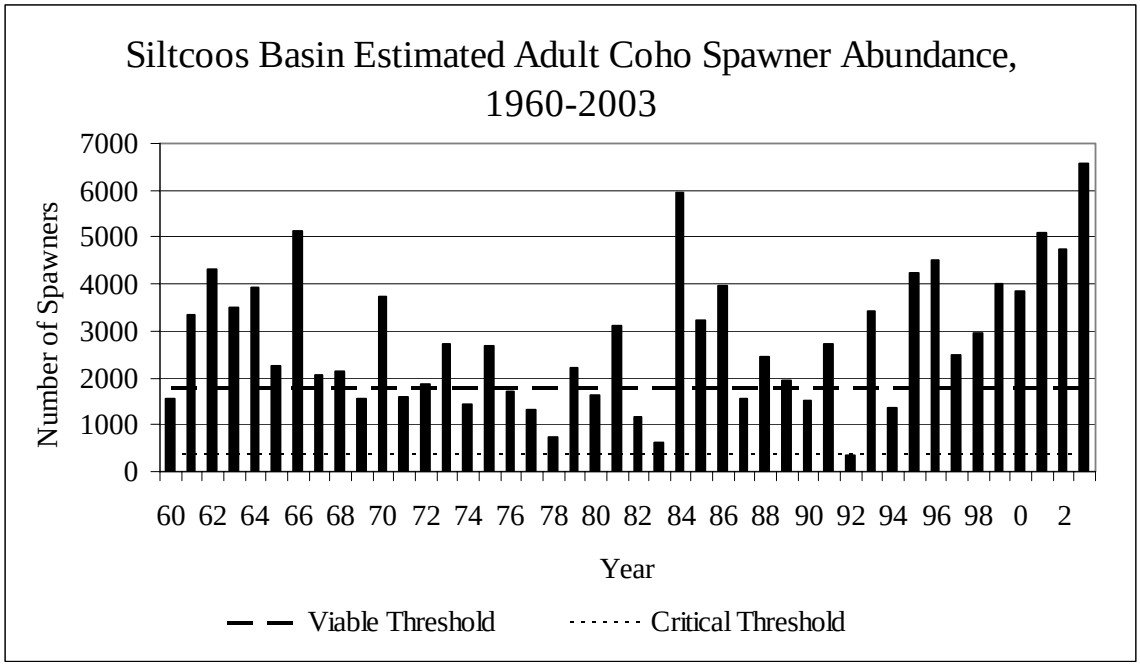

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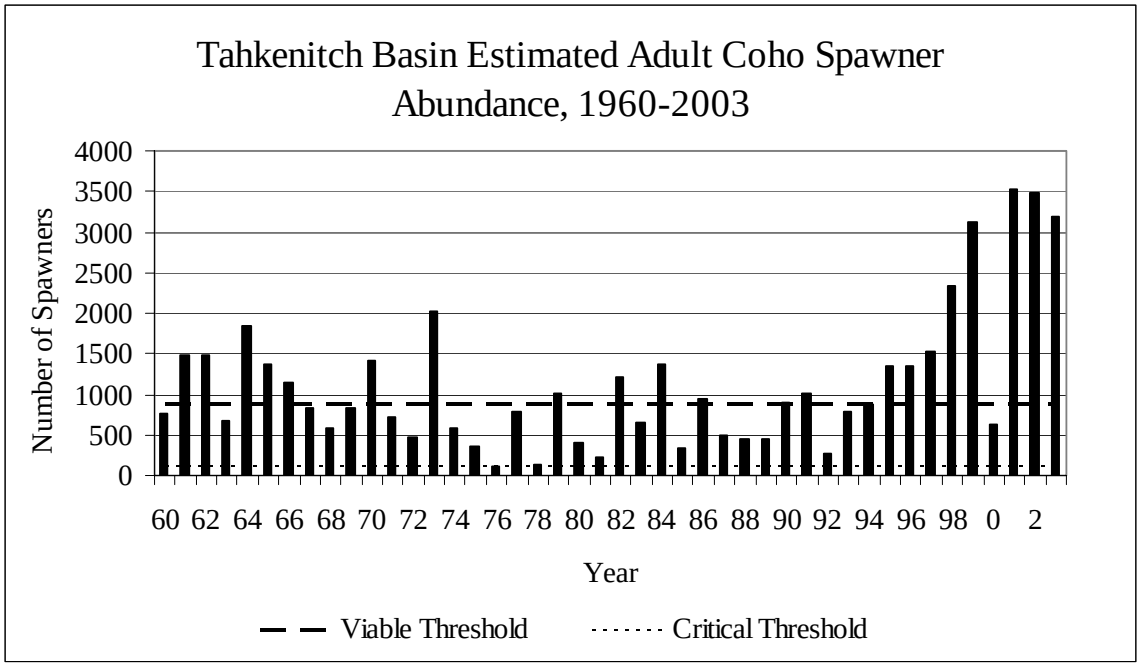
Figure 2.



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Public Response

Public response to the fishery was generally positive. Those supporting the fishery tended to be anglers, providers of services and supplies to anglers, or people that are philosophically supportive of limited terminal fisheries on healthy wild stocks. Even with the late opener, the response was favorable among anglers with high optimism for a full fishery in 2004.

The fishery was opposed by some environmental groups and land managers. Environmental groups did not feel a targeted fishery on coho salmon was justified at this time because of the listing as a Threatened Species. Some land managers or property owners opposed the fishery because they thought it was inconsistent to require them to protect and restore habitat while allowing anglers to harvest the same fish.

Discussion

The initial opening of an Oregon Coast terminal fishery on healthy naturally produced coho salmon populations was successfully implemented in 2003. Prior to the fishery, a process involving extended biological assessments, administrative and legal process, and public review was completed. Opening of the fishery was delayed until late in the season because of the extended time to get through this process. Efforts made in 2003 lay the groundwork for a more streamlined process to open the fishery for a full season in future years if the runs remain healthy.

Objectives for spawner abundance and exploitation limitations were both met. The exploitation rate for this fishery was only about 0.15 %. This was much lower than the potential cap of 15 % for freshwater impacts as allowed by Amendment 13 to the Pacific Coast Salmon Plan (PFMC, 2003). Participation and catch in the fishery was within expected ranges. Historically, the peak month for this fishery has been November, with only a small fraction of the harvest occurring in the second half of December. The 2003 fishery was consistent with this pattern with very modest catch.

Law enforcement for the fishery was provided by Oregon State Police Trooper Scott Salisbury. Scott reported he did not observe or hear of any violations and thought that from an enforcement perspective, the fishery was appropriately designed.

There were no substantial problems associated with the fishery. Minor issues included difficulty distinguishing between boats that were duck hunters and anglers during creel surveys. Adjustments will be made to account for this. A second issue was confusion over the location of the downstream deadline for the fishery on Siltcoos Lake. This was clarified during the season and should not be a problem in future fisheries.

2004 Fisheries

2004 Coho Abundance Forecast

Two coho salmon forecasts are required to implement this fishery. Predictions must be made for the specific coho populations in Siltcoos and Tahkenitch lakes, and a forecast must be made for coho over a broader area using criteria necessary to determine allowable harvest under Amendment 13 to the Pacific Coast Salmon Plan.

For Siltcoos and Tahkenitch lakes respectively, adult naturally produced coho returns are forecasted at 4,863 and 2,794 for the 2004-05 return. These predictions were made by assuming the 2004-05 return would be similar to the most recent five year average spawner abundance for each lake. Both of these forecasts are above the 90% confidence interval for maximum sustained productivity as described by Zhou (2000).

Alternative methods of forecasting coho returns to the lakes were also examined. The PFMC methodology forecasts coho abundance based on the average of the last three years. This PFMC procedure gives forecasts that are about 16 % higher than the methods used here. The jack to adult relationship for these lakes was also examined as a predictive tool, but was found to produce only a weak correlation that was not of predictive value. However, it should be noted the 2003 jack returns to these lakes was very good suggesting the 2004 adult returns should also be reasonably strong (appendix table 1). There were no known environmental anomalies that would raise concern about a weak adult coho return. Coho smolts production monitored at five ODFW trap sites from the Siletz to the Umpqua all had average or above average abundance for the age class corresponding to the upcoming years adult returns. This again suggests 2004-05 returns to these lakes should be reasonably good.

A second broader forecast of coho salmon is also necessary as criteria for exploitation rates under Amendment 13 which is a plan used by the PFMC to manage ocean coho harvest impacts. This forecast is based on hatchery smolt to jack returns for the Oregon Production Index area and Oregon Coast naturally produced coho salmon parental spawner abundance. For 2004, these criteria are in the medium category for the hatchery smolt to jack return rate which is an indicator of marine survival (PFMC, 2004). For the parental spawner abundance, the south-central sub-aggregate which includes Siltcoos and Tahkenitch lakes had spawner abundance in the high category. This high spawner abundance combined with the medium marine survival projection allows a maximum exploitation rate of naturally produced coho salmon from the south central sub-aggregate of 30 %. Ocean fisheries for 2004 however will be limited to a maximum exploitation rate of 15 % because of weaker parental spawner abundance in the north-central sub-aggregate. This leaves an opportunity for a 15 % exploitation rate on Siltcoos and Tahkenitch lakes naturally produced coho in a terminal fishery.

Given these two projections for adult coho salmon abundance, potential quotas in 2004 could be set at the maximum currently allowable (600 in Siltcoos and 400 in Tahkenitch) (table 1).

Table 1. Relationship between forecasted adult coho returns and harvest quotas as described in the FMEP for the Siltcoss and Tahkenitch lakes coho fishery (ODFW, 2003).

Number of Adult Coho Entering Lake	**Lake Fishery Adult Quota**
Siltcoos Lake	
<3300	No Fishery
3300-3900	No more than 300 fish
>3900	No more than 600 fish or max. allowable under Amendment 13 whichever is less,
Tahkenitch Lake	
<2200	No Fishery
2200-2600	No more than 200 fish
>2600	No more than 400 fish or max. allowable under Amendment 13, whichever is less,

Proposed fisheries for 2004

The ODFW proposes coho fisheries in Siltcoos and Tahkenitch lakes extending from October 1 through December 31 or until attainment of the quota, whichever occurs first. The adult coho quota for Siltcoos and Tahkenitch lakes respectively are proposed to be set at 600 and 400 fish. The two lakes will be managed independently with either lake shutting down if the quota is reached. Daily bag limits are proposed at one adult and one jack coho per day. There will be no special gear restrictions. Open fishing areas will be the same as 2003. This includes the outlet arm of each lake upstream from the highway 101 bridges upstream to deadlines in the Maple and Fiddle Creek arms of Siltcoos Lake, and the Leitel and Fivemile Creek arms of Tahkenitch lakes.

To monitor the fishery, a creel survey will be conducted and spawning surveys carried out in similar fashion to 2003.

References

ODFW (Oregon Department of Fish and Wildlife). 2003. Fisheries Management and Evaluation Plan. Oregon Coastal Coho, Siltcoos and Tahkenitch Lakes Coho Fishery. Salem, Oregon. November, 2003.

PFMC (Pacific Fishery Management Council). 2003. Final Amendment 13 to the Pacific Coast Salmon Plan. Portland, Oregon.

PFMC. 2004. Preseason Report 1. Stock Abundance Analysis for 2004 Ocean Salmon Fisheries. Portland, Oregon.

Zhou, S. 2000. Stock Assessment and Optimal Escapement of Coho Salmon in Three Oregon Coastal Lakes. Information Report Number 2000-7. Oregon Department of Fish and Wildlife. Portland, Oregon.

A ppendix table 1.
Estimated spawner abundance of coho salmon in Siltcoos and Tahkenitch Lakes basins.

	Siltcoos		Tahkenitch	
Year	Adults	Jacks	Adults	Jacks
1960	1567	479	759	424
1961	3357	1178	1486	295
1962	4299	728	1485	189
1963	3494	2056	682	366
1964	3915	645	1849	398
1965	2264	1114	1367	454
1966	5122	568	1150	368
1967	2078	932	821	615
1968	2128	471	595	135
1969	1560	1938	821	863
1970	3723	942	1409	651
1971	1594	257	721	83
1972	1849	1264	477	559
1973	2705	792	2027	401
1974	1433	1917	582	521
1975	2697	696	349	920
1976	1722	412	105	82
1977	1312	359	786	76
1978	749	124	132	62
1979	2208	113	1017	169
1980	1645	300	406	163
1981	3108	1141	227	103
1982	1162	311	1210	559
1983	636	739	647	1446
1984	5953	1082	1360	546
1985	3212	1212	347	233
1986	3986	2090	955	457
1987	1555	238	495	262
1988	2468	283	449	160
1989	1963	651	451	472
1990	1529	419	899	796
1991	2730	317	1007	210
1992	368	187	264	641
1993	3415	402	791	192
1994	1345	731	880	420
1995	4240	923	1348	475
1996	4502	1405	1348	953
1997	2501	340	1539	805
1998	2943	963	2334	991
1999	4001	1168	3122	1714
2000	3835	1757	634	1071
2001	5104	436	3526	336
2002	4749	1425	3487	709
2003	6628	2336	3203	934